



**OFFICE OF THE SECRETARY OF DEFENSE  
DIRECTOR, OPERATIONAL TEST AND EVALUATION  
HONORABLE PHILIP E. COYLE**

# **91ST RANGE COMMANDERS COUNCIL MEETING**

**February 10, 2000**

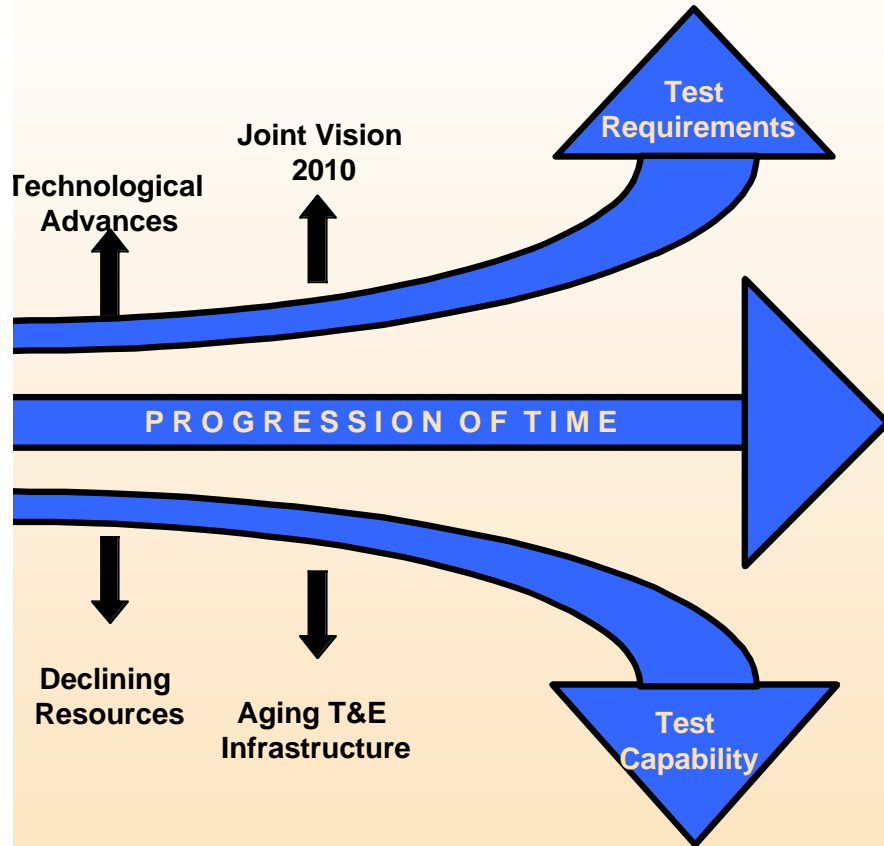
**Luke Air Force Base  
Phoenix. Arizona**



# Outline

- **A New Focus for T&E**
- **What Needs to be Done**
- **GAO Review of Financial Systems**
- **Other Interest Items**
  - **DSB**
  - **Section 907/912c**
  - **Executive Agent**
  - **MRTFB Review and Status**
- **JADS Briefing**

# Reductions in T&E Resources Have Gone Too Far



***We will continue to seek new efficiencies but it is unrealistic to expect further major savings from***

***T&E***

- **Complexity of weapon systems technology continues to increase at a dramatic rate**
  - Technologies to enable Joint Vision 2010
  - Employment of systems-of-systems
  - Increasing geographic extent of the battle space
- **T&E workload is steady or increasing**
- **Acquisition program test resources being reduced**
  - F-22 test budget
- **Continuing to face significant resource challenges**
  - Personnel reductions continue
  - Facilities continue to age and deteriorate
  - Improved processes and efficiencies require new tools and investment



# Requirements to Support Joint Vision 2010 and Beyond

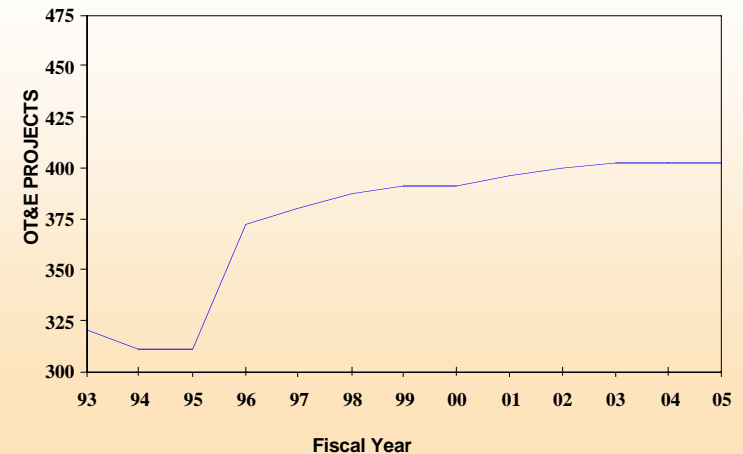
- **JV2010 provides an operationally based template for the evolution of America's Armed Forces**
- **We are underestimating the difficulty of testing new technologies:**
  - Lasers, high power microwaves, multi-spectral sensors, space
- **We require investment now in the capabilities needed to test the technologies/systems required for JV2010 and beyond, e.g.:**
  - Information superiority
  - Digitization and situational awareness
  - National & Theater Missile Defense
  - Multi-spectral stealth
  - Interoperability
  - Directed energy weapons
  - Space systems



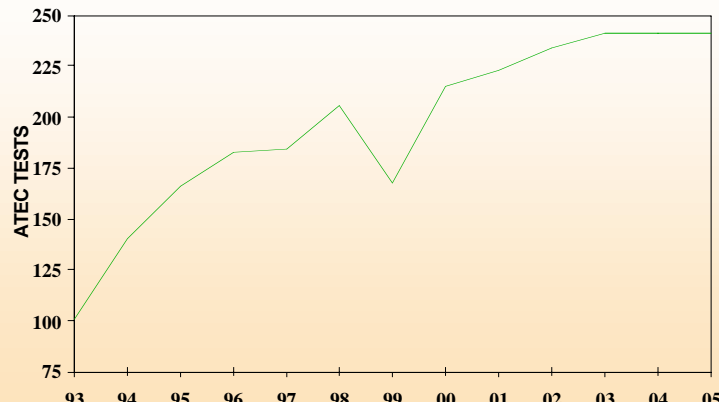
# Operational Test and Evaluation Workload Trends

- Air Force OT workload increased 300 percent from FY92 to FY99
- Navy OT highest in its 55 year history
- Increases in OT workload expected to continue

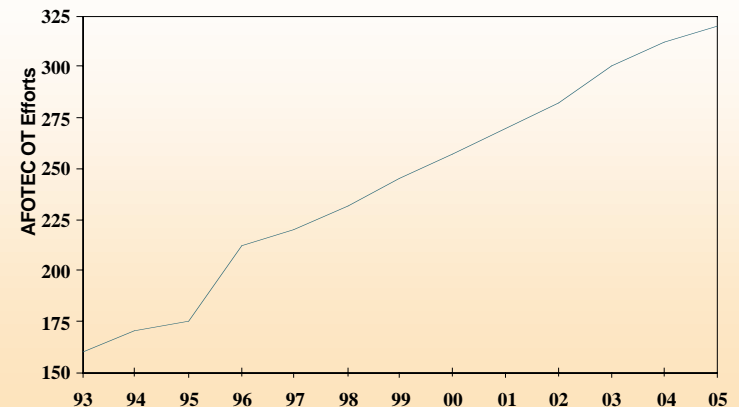
## OPTEVFOR Workload



## ATEC Workload

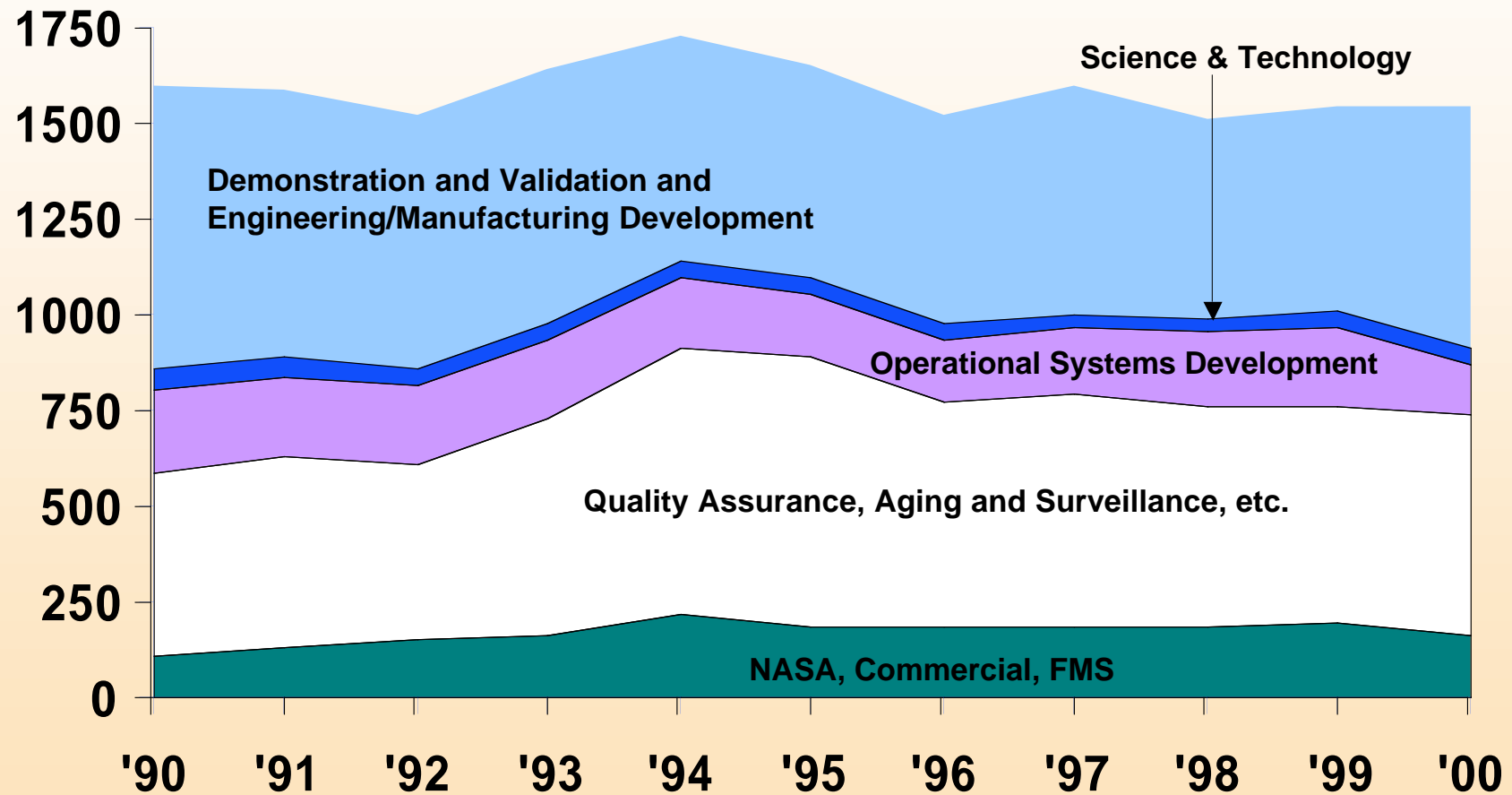


## AFOTEC Workload





# Major Range and Test Facility Base Workload Remains Relatively Steady

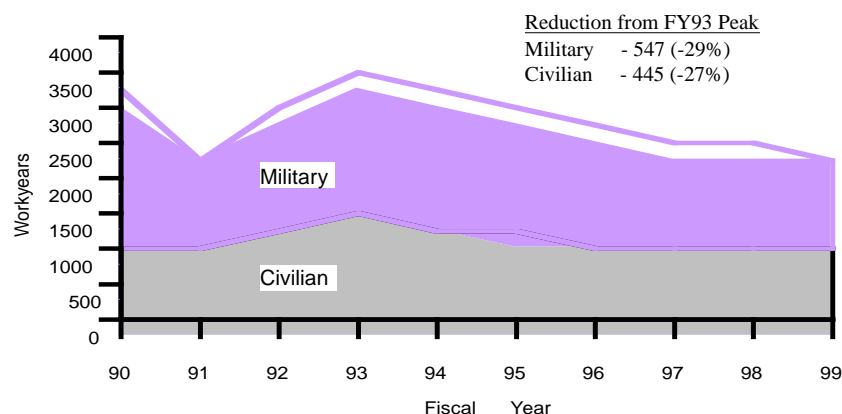






# T&E People

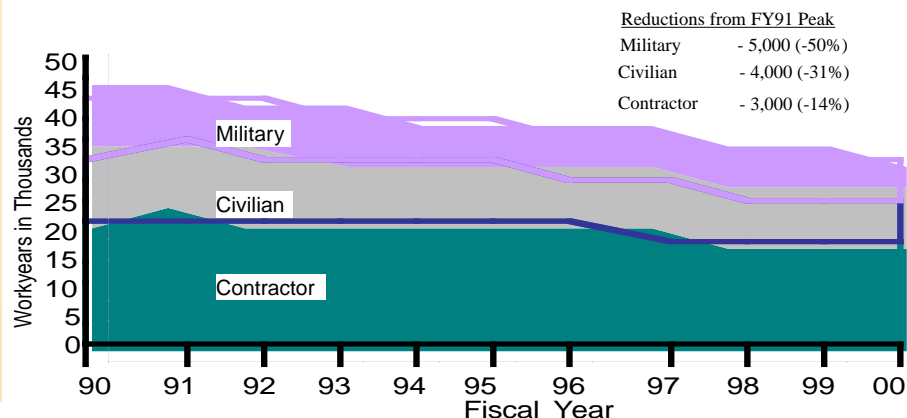
## Operational Test Agency Workforce Trends



## Struggling to Meet Requirements

- 1 Workload remains high or is increasing
- 1 Limited operational test involvement in minor programs
- 1 Significant reduction in military personnel participation in T&E

## MRTFB Workforce Trends



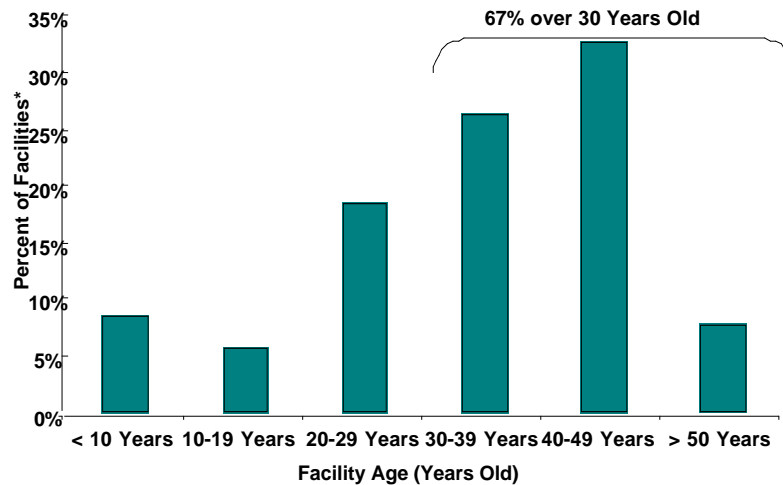
## Eroding Knowledge Base

- 1 Very limited or no hiring of entry-level engineers and scientists
- 1 Average workforce age = 45 years and is increasing each year
- 1 Under 40 age group is leaving government

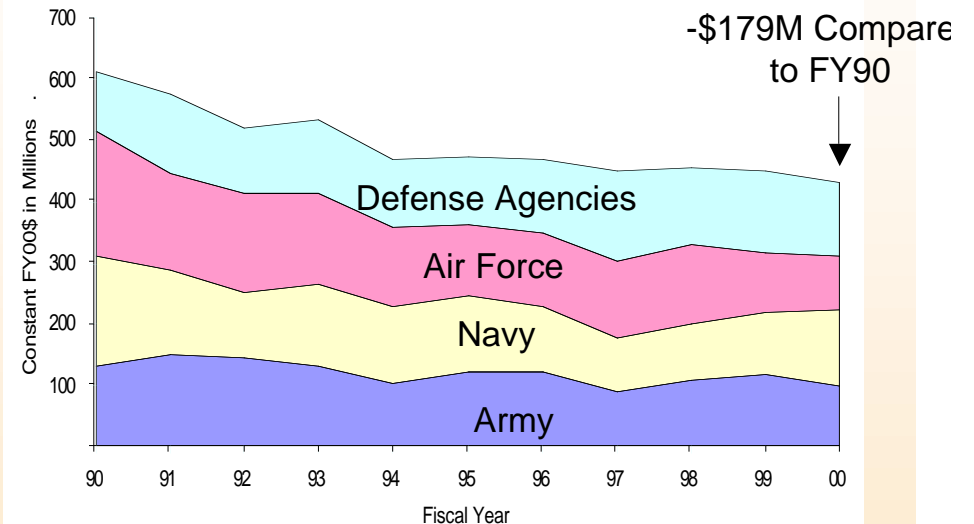


# T&E Facilities

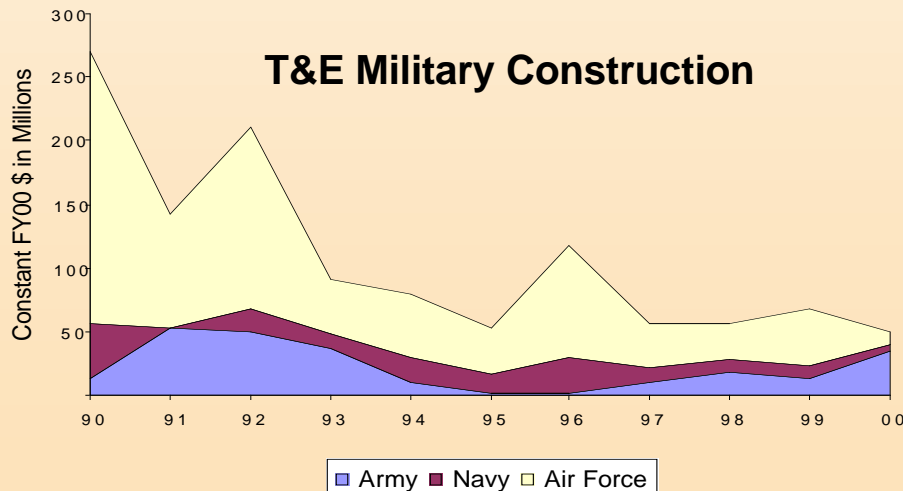
## An Aging Infrastructure



## MRTFB Investment and Modernization



## T&E Military Construction

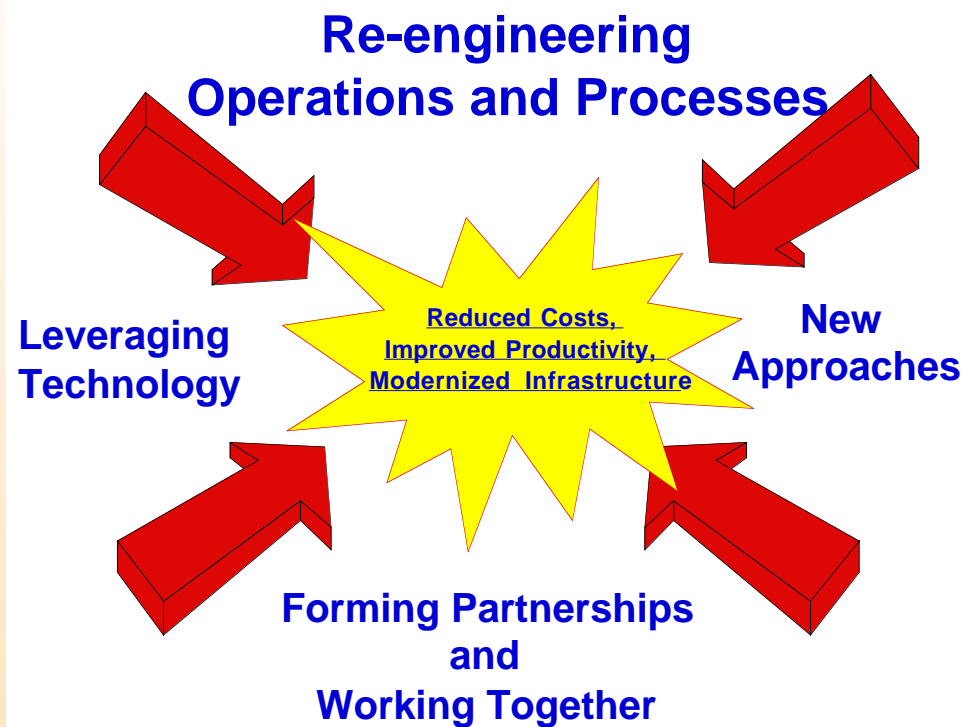


- Funding trends have forced delays in facility modernization, replacement, and repair
- Insufficient funding at some MRTFB for essential facility sustainment
- Results in increased facility maintenance costs and reduced capability over time





# T&E Processes



## Process Re-engineering Objectives

- Provide early operational insights
- Introduce new approaches to T&E to test advanced technologies where traditional methods are constrained by cost or physical limitations
- Improve T&E process efficiency by reducing the cost of operations and test-facility cycle time to help reduce acquisition cycle time and overall acquisition program cost

## Additional Opportunities Limited

- Many opportunities require investment funding which is scarce
- Forming new partnerships and leveraging technologies, such as JADS, will be necessary



# Strategy for T&E Resources

- **Focus on optimizing support to the acquisition process**
- **Work with the acquisition community to determine requirements**
- **Assess current and planned capabilities**
- **Identify gaps**
- **Develop a strategy for closing the gaps**
- **Build our programs around the strategy**



# Test and Training

- **Strengthen the current relationship to provide for more sharing of resources**
- **Integrate our planning processes to focus investments on dual benefits to both test and training**
- **Use operational assets whenever possible to infuse realism into testing**
- **Advocate investment into training ranges when benefits accrue to testing as well**
- **Coordinated responses to encroachment issues such as air space, frequency spectrum, environment, etc.**



# What Needs to be Done

- **Determine the impacts of reductions in budgets and personnel to execution of test programs, especially delays**
- **Specify the encroachment impacts, to include those from frequency spectrum, air space and others**
- **Measure the effects of personnel skill mix shortages, such as reduced availability of military or lack of experienced personnel and describe efforts to compensate for anticipated shortages**



## **We Need Examples**

- **Of how modeling and simulation can be used to improve our test and evaluation capability**
- **Of deterioration of facilities or equipment that may be continuing as a consequence of tight budgets**
- **Of test capabilities that are no longer on line but in reserve and needing time and funds to retrieve**
- **Of increasing complexity levels in current test articles and test scenarios compared to past activities**



## **We Need Facts and Figures**

- **On investments that are delayed or deferred for lack of funding and potential consequences for future test programs**
- **On military construction requests that have not been supported thereby limiting our ability to address Joint Vision 2010 requirements**
- **On the value of CTEIP investments to the accomplishment of current and future tests**
- **On our ability to contribute to the operational realism of test programs as early as possible in their development cycle**





## Things We Need to Do

- **Improve our test capabilities in the areas of Information Assurance, Interoperability and Joint Vision 2010 technologies**
- **Improve our ability to test and train in environments that include various types of countermeasures**
- **Support our acquisition customers and encourage them to express their opinion of us to others**
- **Stay connected to our war fighters and help them understand our contribution to their current and future war fighting capability**



# GAO Review of T&E Management

- **FY00 Authorization conference report directs GAO to review financial management practices used by the Services' test and evaluation centers**
- **The SASC expressed interest in improved cost visibility and control at Air Force T&E centers**
- **GAO plans to explore a Working Capital Fund approach, if they deem that a change is warranted**
- **GAO personnel will be visiting field activities in January - February 2000 as part of this review**
- **GAO will provide an initial report to the SASC Staff by March 31 (DoD will see the draft in early March)**



## Status of GAO Review

- **DOT&E has discussed with the GAO the basis for the MRTFB and its Uniform Funding Policy that already provides a financial management system, including a cost accounting system for cost control and visibility**
- **The current system has served the DoD acquisition community well for over 25 years and changes need to be studied very carefully for their impact on testing**
- **DoD will provide a report to the Congress in September 2000 concerning the potential for using a Working Capital Fund to finance R&D or T&E facilities**



# Defense Science Board Report

- Published in September 1999
- Acquisition related findings are being considered for the new 5000.1
- T&E related findings will be considered by DOT&E and the BOD (T&E)
- DOT&E strongly supports the key finding that:  
  
*“ The focus of T&E should be on optimizing support to the development/acquisition process, not on minimizing ( or even optimizing ) T&E capacity.”*



## Section 907 and Section 912c

- **Met with the Service staffs on 19 January 2000**
- **Agree with Services that reduction goals have been met for both budget and people**
- **Concern now growing about impact of further reductions on mission performance**
- **Changing focus to how best to support the acquisition process rather than how to minimize or optimize T&E capacity**



# T&E Executive Agent Changes

- Integrated DOT&E into the structure
- Consolidated nine T&E Committees into six
- Revised charters are in coordination

*DOT&E recognizes that the RCC is comprised of more than just T&E ranges and believes it should remain informal*

*DOT&E appreciates the contribution of the RCC is the savings that it achieves through jointness, information exchange, and capability exchanges*





## Annual MRTFB Review

- **Need to focus on how the level of support to acquisition programs is affected by budget and personnel considerations**
- **Need to assess our readiness to address Joint Vision 2010 technology areas**
- **Lessons learned need to be shared concerning successes and failures**
- **Don't need to market capabilities at this forum**



## MRTFB Content

- **Services responded to DOT&E request to propose changes**
- **Responses generally supported the existing set of ranges and facilities**
- **No major changes expected at this time although this will be a continuing interest of the BOD(T&E) and future changes are likely to be a result of strategic planning.**
- **There are still facilities and capabilities that need champions.**



# Distributed Testing

- **Distributed testing is an essential element of cost effective interoperability testing**
- **Resources required to produce a realistic warfighting environment can be stimulated or simulated at remote sites mitigating...**
  - **Environmental restrictions**
  - **Logistics problems**
  - **Asset availability**



# Range Implications

- **Connectivity** - build, borrow, buy network connections that allow integration
- **Latency** - plan on collocating assets that have high network demands
- **Interoperability** - range network compatibility
- **Agility** - solutions must be rapidly configured and reconfigured



# Partners

- **Training Commands**
- **S&T and HPC sites**
- **Prime Contractor community**
- **Joint Test programs**
- **Battle Labs and National Labs**
- **Joint Exercises**
- **Test Ranges**